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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/468,538	12/21/1999	HIDEKAZU SAKAI	0649-0710P-S	3756

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10/14/2003

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EXAMINER

WALKE, AMANDA C

ART UNIT	PAPER NUMBER
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1752

DATE MAILED: 10/14/2003

20

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Applicant No.

09/468,538

Applicant(s)

SAKAI ET AL.

Examiner

Amanda C Walke

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 4,6-9,11-17 and 19-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 4, 6-9, 11-17, and 19-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 7/28/2003 has been entered.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 4, 6-8, 12-17, 19-24, 29, and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujita et al (5,273,866) in view of Sakai (5,573,898) and Mifune et al (4,713,321).

Fujita et al disclose a silver halide photographic material comprising a support having coated thereon at least one blue, green, and red emulsion layer, and one or more hydrophilic colloid layers containing a dispersion of microcrystals of at least one compound represented by formulas I-VI which results in improved sharpness and preservability. Dyes I-IV are of structure similar to the present formulas I-III, IV, and XI. The dyes may contain cyano groups in the R2 and R5 positions (see III-27, 32), and hydrogen substituents in the R3 and R6 positions (III-34). These dyes are incorporated as a dispersion of finely divided solid into a layer of the emulsion such as a

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hydrophilic colloid layer to be coated onto a photographic element. The photographic material of example 1 comprises a support having coated thereon a non-coloring light-insensitive antihalation layer between the support and the light sensitive emulsion layer (column 59). The material may be used for motion pictures (column 54, lines 11-16). The dispersion can be prepared by precipitating a dye in the form of a dispersion and/ or by subjecting a dye to fine grinding by a known means such as ball mill in the presence of a dispersant or dissolve the dye in a solvent optionally adding a surface active agent. Also, as shown in Table 3, the material is treated at 40 degrees C after chemical sensitization (after the dye dispersion is dispersed). The dye grains should have a mean diameter of 10 micrometers or less but preferably 0.5 micrometers or less (column 35 lines 37-68). This overlaps with the range in the present claim 6. The dye appears to be added in an amount meeting the limitations of the present claim 8 (column 36, lines 38-41). These dyes may partially or completely replace colloidal silver usually present in filter or antihalation layers. The pH's of the emulsions in the examples of the reference are 6.2 and 6.5 (6 emulsions [the "J" and "L" emulsions] have pH's of 6.2 and 3 [the "K" emulsions] of 6.5). Furthermore, the outermost layer of the film material has a pH of 6.2. Given the pH's of the light sensitive emulsions of the material in the examples, it is the position of the examiner that the pH of the film material would average out to fall within the scope of the present claim limitations (4.6 to 6.4) absent evidence to the contrary.

Sakai teaches the use of a pyrrolotriazole coupler, specifically a cyan coupler, which is of structure similar to the present formula (1) in a color photographic material. These couplers are known to provide excellent color hue (column 2, lines 5-10). Position X of the reference formula (Ib) is any group capable of splitting off from the compound by the coupling reaction

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with an oxidation product of an aromatic primary amine color developing agent (see column 15).

Position X of the formula (Ib) of the reference is the position in the present formula (C-2) where the $-O_2C-X^2$ substituent resides. Exemplified coupler 41 contains a $-O-COCH(CH_3)_2$ as the present $-O_2C-X^2$ substituent (in the reference position X), which in the reference is a group which links the nitrogen of a nitrogen - containing heterocyclic group to the coupling position.

The reference exemplifies substituents in the present positions R^1 and $-CO_2-$

$C(R^{15})C(R^{11}R^{13})ZC(R^{14}R^{12})$ which meet the present limitations for the σp value (see couplers 9, 14, 31, 35, 36, and 39-42). The grains of the reference are preferably high silver chloride grains having a chloride content of 98-100 mol % (column 61, line 56- column 62, line 19).

heterocyclic group to the coupling position. Sakai teaches that pyrazoloazole couplers are better than phenol or naphthol couplers because there is less unfavorable absorption of the dyes formed by the pyrazoloazole couplers than by those formed by the conventional cyan couplers (column 1, line 16 - column 2, line 11).

Sakai teaches that pyrazoloazole couplers are better than phenol or naphthol couplers because there is less unfavorable absorption of the dyes formed by the pyrazoloazole couplers than by those formed by the conventional cyan couplers (column 1, line 16 - column 2, line 11), therefore it would have been obvious to one of ordinary skill in the art to prepare the motion picture film of Fujita et al in view of Sakai choosing to replace the phenol or naphthol couplers of Fujita et al with a pyrazoloazole coupler of Sakai to achieve improved color reproduction.

Sakai and Fujita et al have been discussed above, but fail to teach the use of the specific surface active agents.

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Mifune et al disclose examples of surface active agents which include alkylene oxide derivatives, and glycidol derivatives.

Fujita et al states that the dispersion can be prepared by precipitating a dye in the form of a dispersion and/ or by subjecting a dye to fine grinding by a known means such as ball mill in the presence of a dispersant or dissolve the dye in a solvent optionally adding a surface active agent, therefore it would have been obvious to one of ordinary skill in the art to prepare the material of Fujita et al in view of Sakai choosing to use the a surface active agent such as polyalkylene oxide as taught by Mifune et al with reasonable expectation of achieving a photographic material having excellent sharpness and preservability.

4. Claims 12-17, 19, 20, 23, 24, and 30 are alternatively rejected under 35 U.S.C. 103(a) as being unpatentable over Fujita et al in view of Ohshima et al (5,391,471) and Mifune et al. Fujita et al and Mifune have been discussed above. The Fujita et al reference discloses the dye claimed by claim 23 and the preferred pH of the silver halide emulsion, but fails to disclose the preferred pH of the film material (the pH's of the light sensitive emulsions of the material in the examples are 6.2 and 6.5).

Ohshima et al disclose a silver halide photographic material comprising a support, a non-light sensitive hydrophilic colloid layer coated on the support, and a silver halide emulsion layer. The reference teaches that it is preferable for the pH of the film material (the pH value of all of the constituent layers obtained by the coating the coating solution on the support) be between 5.0 and 6.5 which falls within the presently claimed range. If the pH of a silver halide material falls below 5.0, it causes a disadvantage in that the film hardening is lowered or the sensitivity is

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lowered. If the pH of a silver halide material exceeds 6.5, it leads to desensitization upon exposure under conditions of high humidity or sensitivity fluctuation with the change of the time interval between the completion of exposure and the beginning of processing (column 42, line 50-column 43, line 12).

With respect to the optical density, the optical density of a photographic material is a functional limitation. It is the position of the examiner that since the material of Fujita meets the physical limitations of the present claim 23, the material would also inherently meet the limitation of the present claim 15 for the optical density of the material.

Given the teachings of Ohshima et al, it would have been obvious to one of ordinary skill in the art to prepare the material of Fujita et al in view of Mifune et al choosing to adjust the pH of the final film material to be from 5.0 to 6.5 to prevent a decrease in sensitivity or film hardening with reasonable expectation of achieving a material having excellent sharpness and preservability.

5. Claims 9 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujita et al in view of Sakai et al and Mifune et al (or alternatively Ohshima et al in view of Sakai and Mifune et al), in view of Swank et al (4,006,025).

M.P.E.P. § 2113:

“Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process.” *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir.

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1985)... “The Patent Office bears a lesser burden proof in making out a case of *prima facie* obviousness for product-by-process claims because of their peculiar nature” than when a product is claimed in the conventional fashion. *In re Fessman*, 180 USPQ 324, 326 (CCPA 1974). Once the Examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. *In re Marosi*, 218 USPQ 289, 292 (Fed. Cir. 1983).

Oshima et al, Sakai et al, Mifune et al, and Fujita et al have been discussed above. The references fail to disclose a step of preparing a fine particle dye dispersion by heat treating it at 40 ° C or more.

Swank et al disclose a method for preparing finely divided dispersions of dyes. The process includes heating an organic solvent to dissolve the dye then dispersing the dye droplets; possibly with the help of a surfactant, in a suitable binder. The method includes a heat treatment step in which the temperature is between 40 and 50 ° C (column 4, lines 17-36). Performing the milling step at an elevated temperature aides in dissolving the dye and results in a dispersion having finely divided dye crystals (column 2, lines 3-16).

Fujita et al states that the dispersion can be prepared by precipitating a dye in the form of a dispersion and/ or by subjecting a dye to fine grinding by a known means such as ball mill in the presence of a dispersant or dissolve the dye in a solvent optionally adding a surface active agent, therefore it would have been obvious to one of ordinary skill in the art to prepare the material of Fujita et al in view of Oshima et al and Mifune et al or Fujita et al in view of Sakai

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and Mifune et al, choosing to use the method of preparing a dye dispersion taught by Swank et al with reasonable expectation of achieving a film protected from the generation of static charge after the carbon black-containing layer is removed.

6. Claims 25-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujita et al in view of Sakai et al and Mifune et al in further view of Onishi et al (4,474,872).

Fujita et al, Sakai et al, and Mifune et al have been discussed above, but fail to disclose a step of heat treating the fine particle dispersion at a temperature of at least 60 ° C or greater.

Onishi et al disclose a method for producing an emulsion comprising preparing a dispersion of a water-insoluble photographic additive to an emulsion. The dispersion is prepared by mechanically grinding and dispersing the additive (spectral sensitizing dyes, antifoggants, couplers, UV absorbing agents, etc) in the form of a fine grain having a size of 1 micron or less in an aqueous system adjusted to a pH value of 6 to 8 and controlled to a temperature of 60 to 80 ° C (abstract and column 3, lines 9-23). The examples of the reference exemplify preparing a dispersion of a spectral sensitizing dye.

Given the teaching of Onishi et al that it is known in the art to prepare a fine grain dye dispersion by heating the dispersion at a temperature between 60 and 80 ° C, and the teaching of Fujita et al that the dye may be added in the form of a fine grain dispersion (but is silent with respect to the details of the preparation of the dispersion), it would have been obvious to one of ordinary skill in the art to prepare the material of Fujita et al in view of Sakai et al and Mifune et al choosing to prepare the dispersion by the method of Onishi et al with reasonable expectation of achieving a material having excellent sharpness and preservability.

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7. Claims 26 and 28 are alternatively rejected under 35 U.S.C. 103(a) as being unpatentable over Fujita et al in view of Oshima et al and Mifune et al in further view of Onishi et al.

All four references have been discussed above. The Fujita et al, Oshima et al, and Mifune et al references fail to teach or suggest a method of preparing a fine particle dispersion of a dye including heat treating the dispersion at a temperature of at least 40 ° C.

Given the teaching of Onishi et al that it is known in the art to prepare a fine grain dye dispersion by heating the dispersion at a temperature between 60 and 80 ° C, and the teaching of Fujita et al that the dye may be added in the form of a fine grain dispersion (but is silent with respect to the details of the preparation of the dispersion), it would have been obvious to one of ordinary skill in the art to prepare the material of Fujita et al in view of Oshima et al and Mifune et al choosing to prepare the dispersion by the method of Onishi et al with reasonable expectation of achieving a material having excellent sharpness and preservability.

8. Claims 31 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujita et al in view of Sakai et al and Mifune et al or alternatively over Fujita et al in view of Sakai et al and Mifune et al in further view of Research Disclosure 17643.

Fujita et al, Sakai et al, Oshima et al, and Mifune et al have been discussed above, but the primary reference fails to disclose a preferred support. However, the Fujita et al reference teaches that suitable supports for use in its invention are discussed in Research Disclosure (RD) 17643 (column 54, lines 17-20).

RD 17643 (section XVII) teaches that suitable supports for photographic materials include polymeric films. Specifically named polymeric supports include polyester-type supports.

Given the teaching of the RD cited by the primary reference, it would have been obvious to one of ordinary skill in the art to prepare the material of Fujita et al in view of Sakai et al and Mifune et al or Fujita et al in view of Oshima et al and Mifune et al choosing to use a conventional polyester support as taught by RD 17643 with reasonable expectation of achieving a material having excellent sharpness and preservability.

Response to Arguments

9. Applicant's arguments filed 7/28/2003 have been fully considered but they are not persuasive.

Firstly, applicant has argued that the examiner is incorrect in saying that the examples of the declaration have not compared to the prior art of record and are not commensurate in scope with the present claim limitations. As stated in the previous response, the samples used in the declaration employ a preferred coupler of the present invention (the cyan coupler has a preferred "X" group). The independent claim, which claims the broadest "X" group requires only that "X" be a hydrogen atom or a substituent. On pages 35-37 the definition of "X" is further defined to be preferably a halogen atom, an alkoxy group, an aryloxy group, an acyloxy group, or a 5 or 6-membered nitrogen containing heterocyclic group amongst many other substituents.

Furthermore, on page 43, lines 21-24 of the specification "X" is defined even further to be more preferably and specifically a 6-membered heterocyclic ring attached to the rest of the compound by the nitrogen, which is exactly what coupler 1 in the inventive examples employs. This is indeed a very specific, preferred embodiment which is being compared to an emulsion containing a coupler wherein "X" is an alkyl group (coupler 41 of Sakai). Therefore, while

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applicant has employed the closest prior art coupler to examples of the instant invention, applicant has compared this coupler to a coupler that demonstrates the *most* preferred embodiments of the instant invention, therefore the examples are not commensurate in scope with the much broader present claim limitations. Additionally, with respect to Table 2-1", applicant has compare samples comprising the phenolic coupler of Fujita (one with the claimed dye dispersion and one without) to samples comprising the pyrazoloazole coupler of Sakai (one with the claimed dye dispersion and one without). In both comparisons, the samples comprising the couple of Sakai exhibit an significant increase in sharpness, which is the result that the Sakai teaches one of ordinary skill in the art to expect when employing a pyrazoloazole cyan coupler in the place of a phenolic cyan coupler as there is less unfavorable absorption of the dyes formed by the pyrazoloazole couplers the than by those formed by the conventional cyan couplers which would result in increased sharpness and good color hue. Therefore, the examiner finds the applicant's arguments unpersuasive and she maintains her position.

Applicant has also argued that the references of record fail to teach or suggest to one of ordinary skill in the art to prepare a film material having a pH of between 4.6 and 6.4. Applicant is correct in saying that the 6.2 is the pH of the emulsion not the film, material. However, as discussed above, with respect to the Fujita et al in view of Sakai rejection, the pH's of the emulsions in the examples of the Fujita et al reference are 6.2 and 6.5 (6 emulsions [the "J" and "L" emulsions] have pH's of 6.2 and 3 [the "K" emulsions] of 6.5). Given the pH's of the light sensitive emulsions of the material in the examples, it is the position of the examiner that the pH of the film material would average out to fall with in the scope of the present claim limitations (4.6 to 6.4) absent evidence to the contrary. With respect to the Fujita et al in view of Oshima et

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al reference, the Oshima et al reference teaches that it is preferable for the pH of the film material (the pH value of all of the constituent layers obtained by the coating the coating solution on the support) be between 5.0 and 6.5 which falls within the presently claimed range. If the pH of a silver halide material falls below 5.0, it causes a disadvantage in that the film hardening is lowered or the sensitivity is lowered. If the pH of a silver halide material exceeds 6.5, it leads to desensitization upon exposure under conditions of high humidity or sensitivity fluctuation with the change of the time interval between the completion of exposure and the beginning of processing (column 42, line 50-column 43, line 12). Given the teachings of Ohshima et al, it would have been obvious to one of ordinary skill in the art to prepare the material of Fujita et al in view of Mifune et al choosing to adjust the pH of the final film material to be from 5.0 to 6.5 to prevent a decrease in sensitivity or film hardening with reasonable expectation of achieving a material having excellent sharpness and preservability.

The examiner has clearly set forth a logical position regarding why she believes that the references of record do teach a film material as presently claimed having a pH of between 4.6 and 6.4 absent evidence to the contrary, thus she maintains her position.

For these reasons the examiner finds the applicant's argument unpersuasive and the pending claims 4, 6-9, 11-17, and 19-32 are all rejected.

*** In response to applicant's statement on page 21 of the response that it is believed that the U.S.C. 112 rejection was dropped, the rejection was indeed dropped after final when the examiner entered the amendment after final to clarify the issues for appeal.

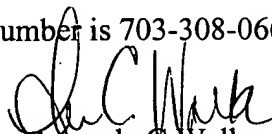
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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amanda C Walke whose telephone number is 703-305-0407.

The examiner can normally be reached on M-R 5:30-4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Janet Baxter can be reached on 703-308-2303. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.


Amanda C Walke
Examiner
Art Unit 1752

ACW
September 29, 2003